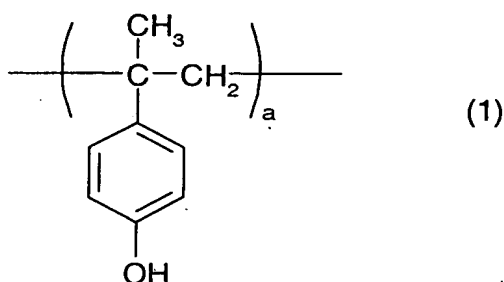
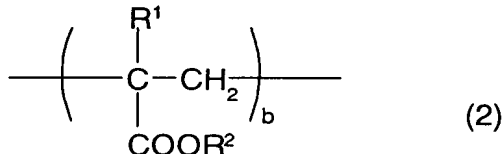


What is claimed is:

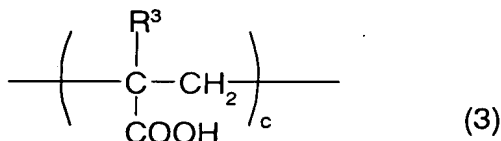
1. A positive sensitive resin composition comprising a base polymer, an ether-bond-containing olefinic unsaturated compound and an acid-generating agent, where the base polymer is a copolymer comprising the structural units represented by formula (1):



formula (2):



- 10 where R^1 is hydrogen or methyl and R^2 is $\text{C}_1\text{-C}_6$ straight or branched unsubstituted alkyl or $\text{C}_1\text{-C}_6$ straight or branched substituted alkyl, and formula (3):



where R^3 is hydrogen or methyl,

- 15 wherein a, b and c are 0.05 to 0.7, 0.15 to 0.8 and 0.01 to 0.5, respectively and $a+b+c=1$.

2. A positive sensitive resin composition as claimed

in Claim 1 where a compounding ratio of the copolymer comprising the structural units represented by formulas (1) to (3) and the ether-bond-containing olefinic unsaturated compound is 0.5 to 50/99.5 to 50 wt% as a ratio
5 of copolymer/unsaturated compound based on their total wt% values, and the amount of the acid-generating agent is 0.1 to 40 wt parts to 100 wt parts of the total amount of the copolymer and the olefinic unsaturated compound.

3. A positive sensitive resin composition as claimed
10 in Claim 1 where R^2 in the structural unit represented by formula (2) is C_1-C_6 straight or branched unsubstituted alkyl or C_1-C_6 straight or branched hydroxylated alkyl.

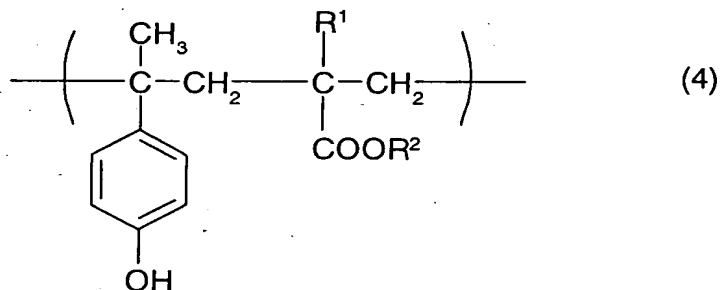
4. A positive sensitive resin composition as claimed in Claim 3 where R^2 in the structural unit represented by
15 formula (2) is selected from the group consisting of methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, sec-butyl and 2-hydroxyethyl.

5. A positive sensitive resin composition as claimed in Claim 1 where a material giving the structural unit
20 represented by formula (2) is a (meth)acrylate selected from the group consisting of methyl acrylate, ethyl acrylate, n-propyl acrylate, isopropyl acrylate, n-butyl acrylate, isobutyl acrylate, sec-butyl acrylate, 2-hydroxyethyl acrylate, methyl methacrylate, ethyl
25 methacrylate, n-propyl methacrylate, isopropyl methacrylate, n-butyl methacrylate, isobutyl

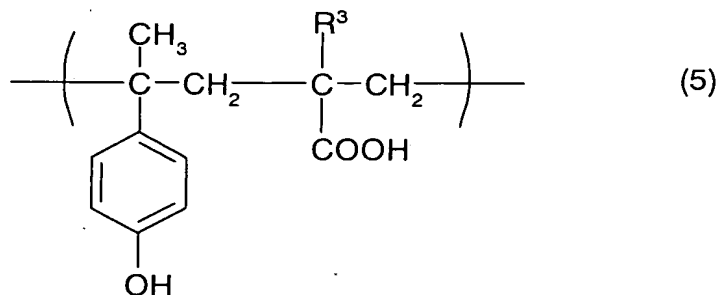
methacrylate, sec-butyl methacrylate and 2-hydroxyethyl methacrylate.

6. A positive sensitive resin composition as claimed in Claim 1 where for the copolymer, a in formula (1) is 0.20 to 0.45, b in formula (2) is 0.25 to 0.70, and c in formula (3) is 0.15 to 0.40, and $a+b+c=1$.

7. A positive sensitive resin composition as claimed in Claim 1 where the copolymer comprising the structural units represented formulas (1), (2) and (3) is an alternating copolymer comprising the structural units represented by formula (4):



where R^1 is hydrogen or methyl and R^2 is $\text{C}_1\text{--C}_6$ straight or branched unsubstituted alkyl or $\text{C}_1\text{--C}_6$ straight or branched substituted alkyl, and formula (5):



where R^3 is hydrogen or methyl, in which the total

content of these structural units is at least 60 mol%.

8. A positive sensitive resin composition as claimed in Claim 1 comprising a photosensitizer.

9. A positive sensitive resin composition as claimed
5 in Claim 8 where a compounding ratio of the copolymer comprising the structural units represented by formulas (1) to (3) and the ether-bond-containing olefinic unsaturated compound is 0.5 to 50/99.5 to 50 wt% as a ratio of copolymer/unsaturated compound based on their total
10 wt% values; the amount of the acid-generating agent is 0.1 to 40 wt parts to 100 wt parts of the total amount of the copolymer and the olefinic unsaturated compound; and the amount of the photosensitizer is 0.1 to 20 wt parts to 100 wt parts of the total amount of the copolymer, the
15 olefinic unsaturated compound and the acid-generating agent.

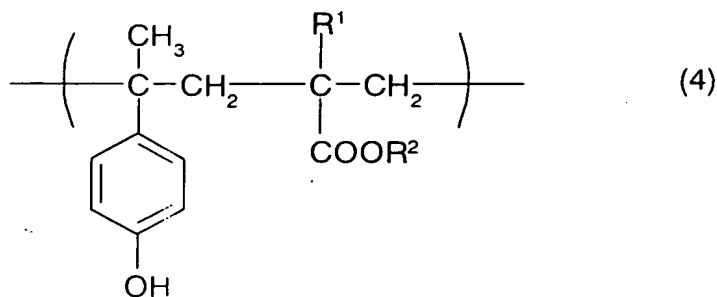
10. A positive sensitive resin composition as claimed in Claim 8 where R^2 in the structural unit represented by formula (2) is C_1-C_6 straight or branched
20 unsubstituted alkyl or C_1-C_6 straight or branched hydroxylated alkyl.

11. A positive sensitive resin composition as claimed in Claim 10 where R^2 in the structural unit represented by formula (2) is selected from the group
25 consisting of methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, sec-butyl and 2-hydroxyethyl.

12. A positive sensitive resin composition as claimed in Claim 8 where a material giving the structural unit represented by formula (2) is a (meth)acrylate selected from the group consisting of methyl acrylate, ethyl acrylate, n-propyl acrylate, isopropyl acrylate, n-butyl acrylate, isobutyl acrylate, sec-butyl acrylate, 2-hydroxyethyl acrylate, methyl methacrylate, ethyl methacrylate, n-propyl methacrylate, isopropyl methacrylate, n-butyl methacrylate, isobutyl methacrylate, sec-butyl methacrylate and 2-hydroxyethyl methacrylate.

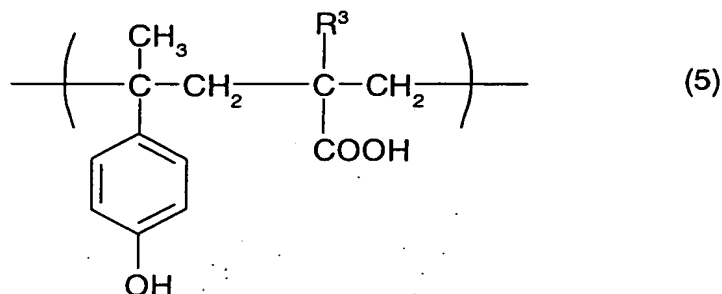
13. A positive sensitive resin composition as claimed in Claim 8 where for the copolymer, a in formula (1) is 0.20 to 0.45, b in formula (2) is 0.25 to 0.70, and c in formula (3) is 0.15 to 0.40, and a+b+c=1.

14. A positive sensitive resin composition as claimed in Claim 8 where the copolymer comprising the structural units represented formulas (1), (2) and (3) is an alternating copolymer comprising the structural units represented by formula (4):



where R¹ is hydrogen or methyl and R² is C₁-C₆ straight

or branched unsubstituted alkyl or C₁-C₆ straight or branched substituted alkyl, and formula (5):



where R³ is hydrogen or methyl, in which the total
5 content of these structural units is at least 60 mol%.

15. A positive ultraviolet sensitive resist
comprising a composition as claimed in any of Claims 1
to 7, whose part irradiated with ultraviolet rays is
soluble or dispersible in an organic solvent or an aqueous
10 developing solution, and whose unirradiated part is
substantially insoluble and undispersible in an organic
solvent or an aqueous developing solution.

16. A positive thermally sensitive resist
comprising a composition as claimed in any of Claims 1
15 to 7, whose part irradiated with heat rays is soluble or
dispersible in an organic solvent or an aqueous developing
solution, and whose unirradiated part is substantially
insoluble and undispersible in an organic solvent or an
aqueous developing solution.

20 17. A positive visible-light sensitive resist
comprising a composition as claimed in any of Claims 8
to 14, whose part irradiated with visible light is soluble

or dispersible in an organic solvent or an aqueous developing solution, and whose unirradiated part is substantially insoluble and undispersible in an organic solvent or an aqueous developing solution.

5 18. An organic-solvent type resin composition which is prepared by dissolving or dispersing the positive sensitive resin composition as claimed in any of Claims 1 to 14 in an organic solvent.

10 19. An aqueous resin composition which is prepared by dissolving or dispersing the positive sensitive resin composition as claimed in any of Claims 1 to 14 in water.

15 20. An aqueous resin composition as claimed in Claim 19, wherein the dissolving or dispersing is carried out by neutralizing an anionic group in the positive sensitive resin composition with an alkali.

21. A positive dry film comprises a substrate and a resist film, where the resist film is formed by applying a positive sensitive resin composition as claimed in any of Claims 1 to 14 to a surface of the substrate.

20 22. A process for forming a resist pattern consisting essentially of the steps of:

(1) applying a positive sensitive resin composition as claimed in any of Claims 1 to 14 to a substrate surface to form a resist film;

25 (2) irradiating the resist film on the substrate with an active energy beam directly or via a mask film.

to form a desired pattern (image) on the film; and

(3) developing the resist film to form a resist pattern on the substrate.

23. A process for forming a resist pattern
5 consisting essentially of the steps of:

(1) applying a positive sensitive resin composition
as claimed in any of Claims 1 to 14 to a supporting
substrate surface to form a positive dry film comprising
a solid positive sensitive resin film;

10 (2) stacking the dry film on an substrate surface
to be stuck in a manner that the substrate surface faces
the resin film of the dry film;

(3) irradiating the dry film surface with an active
energy beam directly or via a mask film with or without
15 peeling off the supporting substrate of the dry film, to
form a desired pattern; and

(4) developing the resist film, after peeling off
the supporting substrate when it has not been removed in
the step (3), to form a resist pattern on the substrate.